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FINANCES, FIGURES AND FICTION[1]

'... and others fell into good earth, and brought forth fruit, some an hundredfold, some sixtyfold, some thirtyfold'

From the Parable of the Sower, *Matthew* 13.8

Whether out of an understandable reluctance to neglect any of the scarce available sources or simply for want of more trustworthy evidence, classical scholars *nolentes volentes* tend to rely to a large extent on references to amounts of money in the ancient literary sources whenever they aim at quantifying, however roughly and shielded by appropriate disclaimers, some fundamental features of Roman economy and society.[2] In view of this, the almost complete lack of systematic enquiries into the very nature of these particular data is almost as inexplicable as it seems inexcusable. While several studies have been devoted to the use of rounded numbers in Greek and Roman literature in general, none of these has specifically addressed the stylization of monetary valuations.[3] The only notable exception is provided by the work of Richard Duncan-Jones who in a pioneering survey of prices in the Latin novel above all showed beyond reasonable doubt that in this genre, prices expressed in multiples of thirty (up to thirty million) should best be understood as purely conventional valuations.[4] In his latest book, he has subjected the ancient numerical evidence for two areas of major concern—the public treasury and state expenditure during the Principate— to an analogous examination that has highlighted the stylized character of many relevant references and has thus largely confirmed his previous findings.[5] Even so, owing to the limitation of these studies to a small number of authors and subject matters, a vast pool of similar data from ancient literature has hitherto been left virtually untapped.[6] What is more, Duncan-Jones did not attempt to complement his re-evaluation of multiples of thirty with a systematic exposition of complementary patterns of stylization. In this paper, I hope to demonstrate the need for a more extensive and much more radical reassessment of much of the available evidence.

[2] See most notably T. Frank (ed.), *An Economic Survey of Ancient Rome*, I–V (Baltimore, MD, 1933–40); I. Shatzman, *Senatorial Wealth and Roman Politics* (Bruxelles, 1975); H.-U. von Freyberg, *Kapitalverkehr und Handel im römischen Kaiserreich (27 v. Chr.–235 n. Chr.)* (Freiburg i. Br., 1989); S. Mratschek-Halfmann, *Divites et praepotentes. Reichtum und soziale Stellung in der Literatur der Prinzipatszeit* (Stuttgart, 1993).

[3] The most comprehensive surveys are provided by E. Wölfflin, 'Sescenti, mille, centum, trecenti als unbestimmte und runde Zahlen', *Archiv für Lateinische Lexikographie und Grammatik* 9 (1896), 177–192; idem, 'Zur Zahlensymbolik', loc. cit., 333–51; idem, 'Das Duodecimalsystem', loc. cit., 527–44. See also E. B. Lease, 'The Number Three, Mysterious, Mystic, Magic', *CPh* 14 (1919), 56–73; A. Dreizehnter, *Die rhetorische Zahl. Quellenkritische Untersuchungen anhand der Zahlen 70 und 700* (Munich, 1978).

[4] R. Duncan-Jones, *The Economy of the Roman Empire. Quantitative Studies* (Cambridge, 1982), pp. 238–56.

[5] R. Duncan-Jones, *Money and Government in the Roman Empire* (Cambridge, 1994), pp. 16–19.

Thus, I will try to show that the literature of Roman times as a whole, and in many cases irrespective of literary genres and individual authors, is permeated by conventional or symbolic monetary valuations to an extent that seriously restricts the range even of tentative calculations and quantifying comparisons. More specifically, I will argue that at least for certain crucial areas of Roman history, between ninety and one hundred percent of all existing financial numerical data are merely conventional figures which cannot automatically be accepted as rough approximations or rounded variants of actual figures known to the authors (like 300,000 instead of 284,700 *vel sim.*). While in some cases they may not be far from the truth, in others the opposite may be the case: in most of the instances referred to in the following sections, however, it seems impossible to decide between these two positions.[7]

At the outset of this survey, two major caveats are clearly in order. An enquiry of this kind is not based on direct knowledge of the validity of any given amount but only on our ability to check accumulated ancient data against what we know to be statistically or numerically likely. Because of that, no single numerical or monetary statement can be disproved if it remains uncontradicted elsewhere in ancient evidence.[8] Therefore, the doubts aroused here will be *generic* doubts, rather than doubts that deny any individual statement in the sources. For this reason, in the present context no attempt will be made to assess the reliability of any individual reference. My study focuses on digits and numerals that are overrepresented in the sources. Even though following a general overview I will submit a crude quantitative analysis of selected samples of data, this procedure must not be mistaken for a proper statistical evaluation. In contrast to other kinds of evidence, even 'true' figures cannot be expected to conform to a random distribution of digits or numerals. In the case of monetary valuations, a lower figure is probably inherently more likely to occur than a higher value. Thus, we may reasonably anticipate more references to one million sesterces than to eight million, yet without being able to quantify this preference.[9] It is only when we find many more references to higher figures than to certain lower ones (e.g. many more instances of ten million rather than seven, eight, or nine million, or of one hundred million instead of seventy or eighty) that we can suspect deliberate stylization. An additional problem is created by the very real possibility that some amounts of money were determined by the same conventionalities that underlie the pattern of stylization in the literary sources. But while this may hold true for certain categories of prices (such as handouts, dowries and legacies), the data utilized for tentative quantification should be unaffected by any such tendency.[10] These qualifications notwithstanding, the histograms presented

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[7] K. Menninger, *Number Words and Number Symbols. A Cultural History of Numbers* (Cambridge, MA & London, 1969), p. 153, defines 'round numbers' as 'numbers whose specific meanings are inflated into the indefinite "many"'. Wölfflin, 'Sescenti', 177, differentiates between 'indefinite' numbers (as in 'I have told you a hundred times'—which might stand for 7 or 8 times), and 'round' numbers (as in 'he makes 100 verses an hour'—instead of 70 or 80). For the present purposes, I would define numbers belonging to this last category as 'rounded'. As this paper is not concerned with the interpretation of particular figures, I will however give preference to the more general expression 'conventional numbers' that encompasses all the categories referred to above.

[8] Almost needless to say, the existence of two or more conflicting monetary data for a particular matter does not *ipso facto* enable us to determine the correct variant (even if any of the variants is correct at all).

[9] This problem holds in particular for values in the bracket of between one hundred and nine hundred million. [10] See below, in the penultimate paragraph of the main paper.

below should leave litle doubt that the overrepresentation of some numerals is so pronounced that it does not merely reflect an uneven distribution of the 'real' values hidden behind these rounded figures. Even so, it must be stressed that we cannot hope to get more than an *impression* of the extent of stylization of our data, and not a precise statistical value.

PATTERNS OF STYLIZATION

As will be seen in the following, we can distinguish between three basic patterns of stylization. The first category is made up of powers of ten, i.e. 10, 100, 1,000, and so forth. As today, the use of these multiples would have come naturally in a society where a decimal system of counting was in use.[11] And indeed, Roman literature is rife with amounts expressed in powers of ten in various non-monetary contexts as well.[12] The second type consists of multiples of thirty that are either decupled multiples, which means that the figure thirty is increased tenfold, hundredfold, etc. as in 300, 3,000 or 3,000,000, or multiples that are the result of multiplications of three or thirty by itself, e.g. thirty times thirty, or very rarely even three times three times three.[13] Again, all these figures and multiples occur repeatedly in Roman literature.[14] That the frequent use of multiples of 30,000,000 will have been due to a proverbial meaning is underscored by the observation that in his *Meditations*, Marcus Aurelius uses 300, 3,000 and 3,000,000 as symbolic figures in non-numerical and non-monetary contexts.[15] The third type is represented by decupled multiples of 400, e.g. 400,000. (In contrast to the second category, multiplications of decupled multiples of 400 by themselves are not attested.) This additional preference for decupled multiples of four could be linked with the basic equation of 1 *denarius* = 4 *sestertii* introduced in the late second century B.C. that would have prompted the Romans to multiply rounded numbers (normally powers of ten) by four. With regard to larger figures, the equestrian census of HS 400,000 that is frequently referred to in the sources might also have played a role.[16] A sub-category of all three major types consists of single

[11] The progression from 10 to 100 to 1,000, etc. follows a 'cyclical pattern', which consists of the successive powers of an established numerical base as can be expressed in words: T. Crump, *The Anthropology of Numbers* (Cambridge, 1990), p. 35. 'Ten' is the most common base but is by no means universal: op. cit., 36, and G. Flegg, *Numbers. Their History and Meaning* (London, 1983), p. 36 (on powers of ten in the Indo-European languages).

[12] For references from the Roman sources, see Wölfflin, 'Sescenti', 180–84 (on *mille*), 185–88 (on *centum*). For a similar usage in past literature, cf., e.g. H. Candler, 'On the Symbolic Use of Number in the "Divina Commedia" and Elsewhere', *Transactions of the Royal Society of Literature* 30 (1895), 1–29, at 6–11.

[13] On the creation of new numbers by repeated multiplication, see in general Crump, op. cit. (n. 11), p. 37.

[14] On 300, see Wölfflin, 'Sescenti', 188–90. For the use of three times three in the Roman sources, see idem, 'Zahlensymbolik', 334–7; Lease, op. cit., 61f. (i.a. Plaut. *Pseud.* 704; Hor. *Carm.* 3.19.11 and 14). Macrob. *Somn. Scip.* 2.2.12: 'ternarius numerus triplicatus novenarium numerum facit'. On three times nine, see Wölfflin, op. cit., 337f. (Varr. *R.R.* 1.2.27; Ov. *Met.* 14.58; Liv. 27.37.2 and 12; 31.12.9; Colum. *R.R.* 8.5.10; Plin. *N.H.* 11.73). I do not think that the use of decupled multiples of 3 is an exclusively Latin habit: Epictetus' stick sold for 3,000 drachmae in Lucian. *Adv. Indoct.* 13; the starting price of the donkey is 30 drachmae in [Lucian.] *Asin.* 35; a purse contains 3,000 drachmae in Longus 3.27.4.

[15] *Meditat.* 2.14 and 6.49, noted by Duncan-Jones, *Money and Government*, p. 17. This finding receives support from the annalistic habit of putting manpower losses of hostile armies or populations at 30,000: see Dreizehnter, op. cit., p. 6.

[16] Plin. *N.H.* 33.32; Plin. *Epist.* 1.19.2; Mart. 4.67.1–4; 5.23.7f.; 5.38.1–3; Juv. 5.132 (?); 14.326; Suet. *Caes.* 33; *Tib.* 59.1. Cf. also Dreizehnter, op. cit., pp. 6 and 11, on the conventional use of 40,000 by Valerius Antias.

duplications of any such conventional figures, as in two times 1,000,000 or in two times 30,000,000. As we will see below, there are indications that this is not a category in its own right but merely an extension of the three main types. Several references cited below seem to suggest that figures such as two million, sixty million and 200 million may simply carry the meaning of 'twice as much' as something already expressed by a very rounded and conventional figure (i.e. powers of ten or decupled multiples of thirty).[17]

MISCELLANEOUS REFERENCES AND SUGGESTIVE IMPRESSIONS

Luxury goods provide a good starting point as something relatively far removed from everyday life and thus prone to exaggerating representation. Not surprisingly, conventional figures abound when it comes to assessing the extravagance of the rich and super-rich. HS 100,000 are paid for a famous horse in Argos in the middle of the first century B.C. (Gell. *N.A.* 3.9.4). A talking bird and a white nightingale fetch HS 6,000 each (Plin. *N.H.* 10.141; Plin. *N.H.* 10.84). On two occasions, Martial gives the price of a purple cloak as HS 10,000 (4.61.4f.; 8.10.1f.). The maximum price of a pound of wool is HS 100 (Plin. *N.H.* 8.190; cf. Mart. 12.65.5f.), one pound of violet purple dye costs 100 *denarii* or HS 400 (Plin. *N.H.* 9.137), while a pound of double-dyed Tyrian purple sells for more than 1,000 *denarii*, or HS 4,000 (ibid.). Greedy traders who purchase balsam for HS 300 per pound are scolded for re-selling it for HS 1,000 per pound (Plin. *N.H.* 12.123). At some auctions, an unspecified quantity of ostrich suet would change hands for HS 30,000 (*N.H.* 29.96). The price of jewellery as the ultimate luxury item is always given in conventional figures: thus, the value of a pearl dissolved in vinegar by one Metella near the end of the republic is put at HS 1,000,000 (Hor. *Sat.* 2.3.239f.). Not to be outdone, Antony and Cleopatra supposedly dissolved in vinegar one (or two) pearl(s) valued ten times as much, HS 10,000,000 (Plin. *N.H.* 9.119f.). Tertullian mentions HS 1,000,000 as a patently conventional price of a string of pearls (*Cult. Fem.* 1.9.3). In 59 B.C., Caesar gave a pearl worth HS 6,000,000 (i.e. twice as much as 3,000,000 or rather 'a great lot') to the mother of M. Brutus (Suet. *Caes.* 50.2). Lollia Paulina came to the rescue of decupled multiples of forty by wearing jewellery with a total value of HS 40,000,000 at her wedding to Caligula (Plin. *N.H.* 9.177f.; Solin. 53.29). Others followed suit: HS 400,000 were paid for a child's ornament (or whatever a *securiculum* is meant to be) at an auction (Mart. 14.35.2), and Nero is said to have spent HS 4,000,000 on headbands for his dinner guests (Suet. *Nero* 27.3) and the same amount on an unspecified number of Babylonian coverlets (Plin. *N.H.* 8.196). Were HS 400,000 or only HS 400 at stake per point when Nero played dice (Suet. *Nero* 30.3)? In exchange for thirteen gladiators, Caligula skilfully extricated HS 9,000,000, or three times three million, from a senator who fell asleep during an auction (Suet. *Cal.* 38.4).

Our authorities put similar price-tags on luxury foodstuffs. Thus, the price of a jar of exclusive wine could be given as HS 400 (Diod. 37.3.5).[18] Other prices for wine are

[17] See Wölfflin, 'Sescenti', 188: 'Wie man die unbestimmte Zahl 1000, wo sie zu hoch gegriffen erscheint, halbieren kann, so läßt sich auch centum, wo es nicht ausreicht, verdoppeln.' See op. cit., 188, on 200, and 178–80 on 600. Cf. also idem, 'Duodecimalsystem', 537–44, on 60 (with particularly rich references). On 60 and 300, see also Menninger, op. cit. (n. 7), pp. 153f. Both doubling and quadrupling have a firm grounding in Roman law as fines set in relation to damage.

[18] At the same time, a jar of smoked Pontic fish is said to have cost exactly three or four times as much (Pol. 31.25; Diod. 31.24.1; Athen. 6.275a; Diod. 37.3.5).

expressed in powers of ten or decupled multiples of thirty: while the elder Pliny (*N.H.* 18.17) adopts HS 100 as an explicitly fictitious valuation of one *amphora* of wine bottled in 121 B.C., in his own days a *testa* of exclusive wine would be valued at HS 1,000 (Plin. *N.H.* 14.57). The same price of HS 1,000 is attributed by the same author to two *congii* of Spanish garum (*N.H.* 31.94). While three mullets are said to have cost HS 30,000 (Suet. *Tib.* 34.1), another mullet seems to be put at HS 300 per pound (Mart. 10.31.1–4).[19] A peach is put at HS 30 in Rome (Plin. *N.H.* 15.40). In the second century A.D. Apuleius introduces HS 100 as the asking price of a fish dish (*Met.* 1.24.2).

The same pattern is endorsed in the works of the Roman agronomists. Thus, Varro puts the price of a pair of pigeons in his own time at HS 400 (*R.R.* 3.7.10), a figure which Pliny the Elder chooses to report as 400 *denarii* (*N.H.* 10.110). Varro adds that an unusually fine pair of pigeons would fetch HS 1,000 (*R.R.* 3.7.10), a figure accurately reproduced by Columella (*R.R.* 8.8.9). The latter, however, in a way anticipates Pliny's later multiplication by four of Varro's figure by pointing out that at present, a pair of pigeons might sell for as much as HS 4,000 (*R.R.* 8.8.10). In all that, none of these three authors ever ventures beyond powers of ten or decupled multiples of forty.

The same lack of imagination can be observed in their presentation of larger figures. While according to the elder Pliny the profit accruing from the foals of she-asses per dam amounts to HS 400,000 (*N.H.* 8.170), the same author sets the proceeds from a single vintage at the same value, HS 400,000 (*N.H.* 14.50). His colleagues concur: both Varro and Pliny put the price of a donkey at HS 40,000 (*R.R.* 3.2.17; *N.H.* 8.167). In addition, the former would even reckon with HS 400,000 for a team of donkeys (*R.R.* 2.1.14). Fish is said to yield the same profit. Thus, in one case the sale of fish brings in HS 40,000 a year (Varro *R.R.* 3.2.17). Peafowl bring in either HS 40,000 or HS 60,000 per annum (Varro *R.R.* 3.6.1; 3.6.6). According to Columella, a *culleus* of wine could be expected to sell for HS 300 (*R.R.* 3.3.10); 10,000 quicksets are valued at HS 3,000 (*R.R.* 3.3.13).

Crisis apparently also precipitated conventional prices for foodstuffs: when Athens was besieged by Sulla in 86 B.C., a *medimnos* of wheat would cost 1,000 drachmae (or HS 4,000) according to Plutarch's source (*Sull.* 13.2). In Asia Minor (?) under Augustus, the price of a vase of olive oil allegedly soared to 6,000 drachmae (Val. Max. 7.6.6). On the other hand, frugality also translates into conventional figures: thus, Cato never spent more than 30 *asses* on fish and meat per meal and not more than 100 drachmae, or HS 400, on any single garment (Plut. *Cat. mai.* 4.3).

While granting that extravagance or emergencies might dictate conventional valuations and need therefore not be representative, we turn to other subject matters only to find the same pattern repeated over and over again. The prices of real estate normally come in decupled multiples of thirty or forty. Horace regards HS 300,000 as a conventional figure for the value of a landed estate in Italy (*Epist.* 2.2.164f.), while a decent villa with rich furnishings could be set at HS 30,000,000 (Plin. *N.H.* 36.115). According to a highly anecdotal account, a certain house was worth HS 3,000,000 if assessed without ten nettle-trees adorning its front, but HS 6,000,000 if sold together with these plants (Val. Max. 9.1.4). This story also serves as a pointer as to how a *doubled* decupled multiple of 30 is meant to indicate a value that exceeds that given by another conventional figure, and cannot be seen as anything more precise. Consideration of this simple literary device may also elucidate two references to the cost of private baths, set by Gellius at HS 300,000 (*N.A.* 19.10.4) but represented as

[19] But cf. below, note 29.

twice as high by Juvenal who is always eager to exaggerate (7.178: HS 600,000 for private baths; the same price for a *porticus*). Another example of the duplication of a conventional figure is provided by Martial, according to whom a town house once priced at HS 100,000 is now offered for HS 200,000 (12.66.1). A bid for the house-plus-nettle trees mentioned above is put at a modest HS 1,000,000 by Plin. *N.H.* 17.3f. Ten columns are said to cost HS 100,000 (Val. Max. 9.1.4). Decupled multiples of forty share in this stylization as well: thus, the sale of the *vivarium* of a villa yields HS 4,000,000 (Plin. *N.H.* 9.170; Macrob. *Sat.* 3.15.10), while a hundred years later a Campanian vineyard is valued at HS 400,000 (Plin. *N.H.* 14.49).

Someone is reported to make HS 3,000,000 per annum from letting farms and flats (Mart. 4.37.4), and five stores would yield an annual profit of HS 400,000 (Juvenal 1.105f.). Games lasting three days cost HS 400,000 in Petronius (45.6) while the value of five ships full of merchandise amounts to HS 30,000,000 (76.4). The same author also refers to legacies or inheritances of HS 100,000, HS 10,000,000, and HS 30,000,000 (43.1f.; 141.7; 45.6), and to a cash deposit of HS 10,000,000 (76.4). On a more modest level, a lost-and-found purse contains 3,000 drachmae (Longus 3.27.4).[20] What is more, Martial and Juvenal make no mention of dowries that are *not* expressed in decupled multiples of 40 or in powers of 10. Each dowry in Martial's epigrams is valued at HS 1,000,000 (2.65.5; 11.23.3f.; 12.75.8). Almost the same holds good for Juvenal (6.137; 10.335), who furthermore attributes a 'dowry' of HS 400,000 to a male homosexual (2.117). Petronius mentions HS 10,000,000 as the potential size of a dowry (74.15). The same pattern emerges in Martial with regard to legacies, set at HS 100,000 (4.6.12); HS 300,000 (12.70.7); HS 1,000,000 (4.66.17); HS 10,000,000 (or 8,000,000?) (1.99.4–7); HS 10,000,000 (5.70.1f.); and HS 20,000,000 (5.37.24).

Turning away from satirists and novelists, 'whose evident purpose was to entertain rather than to record or instruct',[21] one immediately encounters the same pattern of stylization in the works of 'serious' historians and antiquarians. Thus, Petronius' cash deposit of HS 10,000,000 finds something of a parallel in Galba's private cash reserve of HS 1,000,000 (Suet. *Galba* 8.1). Slander relies on conventional figures as well: Lucius Antonius was given HS 300,000 to engage in homosexual intercourse (Suet. *Aug.* 68), whereas Vespasian paid HS 400,000 for heterosexual gratification (Suet. *Vesp.* 22). What might be called a classic case of unembarrassed stylization is provided by Cassius Dio's statement that during his campaigns in the East, the emperor Caracalla spent HS 30,000,000 on poison (79.6.3): apart from the fact that even if Caracalla bought any such substances, Dio could hardly have established the precise cost, this example illustrates how ancient historians did not hesitate to insert seemingly conventional figures in their narratives without indicating their dubious or downright fictitious character. It is certainly not inconceivable, however, that their audience automatically took these figures as what they were meant to be, as mere symbols suggestive of large amounts of money. In a considerably less exotic context, the fees Vespasian offered to famous actors are put at HS 40,000, HS 100,000, HS 200,000 and HS 400,000, thereby precisely conforming to the most conventional pattern imaginable (Suet. *Vesp.* 19.1). The annual salary of a grammarian could be set at HS 400,000 (Suet. *Gramm.* 17), as was the annual revenue of a rhetoric school (ibid. 23). One could add many examples from the world of art, yet suffice it to refer to the colossal statue of Mercury commissioned by the Arverni of Gaul that allegedly

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[20] Since in this case we need not assume a Latin source, this figure was also originally intended; cf. n. 14.   [21] Duncan-Jones, *Economy*, p. 238.

cost them HS 40,000,000 (Plin. *N.H.* 34.45). The provincials of Britain owed Seneca a total of HS 40,000,000 (Dio 62.2.1). After the fire of A.D. 64, the people of Lugdunum donated HS 4,000,000 to the city of Rome (Tac. *Ann.* 16.13.3). Even more intriguing, the private commentaries compiled by Pliny the Elder when procurator in Spain are said by his own nephew to have sold for HS 400,000 (Plin. *Epist.* 3.5.17). The aggregate weight of the examples presented so far will now even cast doubt on the reliability of Pliny's statement that his Tuscan landholdings yielded HS 400,000 (annually or quinquennially) (*Epist.* 10.8.5). When Pliny brought up this figure in his application for a leave to visit his estates, did he only want to drive home the point, 'this property brings me a lot of money (and its management is therefore of vital interest to me)'? While it would clearly be unwarranted to dismiss all occurrences of a conventional amount as stylizations, in this case similar valuations by the Roman agronomists cited above seem to undermine further the credibility of Pliny's figure.

And indeed, references to private fortunes from the end of the republic onwards are almost exclusively confined to powers of ten and decupled multiples of thirty and forty. One Luscius had a private fortune of more than HS 10,000,000 (Ascon. *Tog. Cand.* 90.81), as did Pomponius Atticus (Nep. *Att.* 14.2) and Virgil (Donat. *Vit. Verg.* 13; Probus, *Vit. Verg.* 16–18). A physician managed to rake in the same amount within a few years' time (Plin. *N.H.* 29.22). After a life of gluttony, Apicius ended up with a fortune of equal size, HS 10,000,000 (Sen. *Helv.* 10.9; Mart. 3.22.1f.; Dio 57.19.5). Crassus Mucianus boasted of 100,000,000 *asses* (or rather, sesterces) (Cic. *Rep.* 3.17); in this, he was matched by Tarius Rufus (Plin. *N.H.* 18.37) and by Hipparchus (Suet. *Vesp.* 13). The same might hold for the ghostly Hosidius Quadratus (Sen. *N.Q.* 1.16.1). In his heyday, Crassus owned HS 200,000,000 (Plin. *N.H.* 33.134), as did Sallustius Crispus Passienus (Suet. *De Or.* 14; cf. *Schol. Iuv.* 4.81) and Eprius Marcellus (Tac. *Dial.* 8.1f.). Cato the Younger and Apuleius' wife Pudentilla had to content themselves with HS 4,000,000 each (Sen. *Vit. Beat.* 21.3; Apul. *Apol.* 71.6), dwarfed by Cn. Cornelius Lentulus (Sen. *Benef.* 2.27.1), Narcissus (Dio 61.34.4) and Pallas (Dio 62.14.3), all of whom held exactly one hundred times as much, HS 400,000,000. Tacitus prefers a different symbolic figure for Pallas' wealth, namely HS 300,000,000 (*Ann.* 12.53.2), as he does for Seneca (*Ann.* 13.42.4; Dio 61.10.3) and Vibius Crispus (*Dial.* 8.1f.). The joint fortune of the Stertinii amounts to a tenth of that sum, HS 30,000,000 (Plin. *N.H.* 29.8). There would be little point here in listing the numerous analogous references to fictional fortunes in Petronius and Martial (see below, Table 2).

The purely conventional character of decupled multiples of forty and of powers of ten is also underlined by several references to administrative misconduct in several sources that are far removed from one another in space and time. Thus, Cicero cannot make up his mind whether to accuse Verres of extorting and embezzling a total of HS 40,000,000 (1 *Verr.* 56; 2 *Verr.* 1.27; 2 *Verr.* 2.26) or rather HS 100,000,000 (*Q. Caec.* 19). According to Dio 39.55.5, Aulus Gabinius enriched himself by HS 100,000,000 during his term as governor of Syria, while in Spain at the end of the first century A.D., a governor allegedly misappropriated just HS 4,000,000 (Plin. *Epist.* 3.9.13).[22] And what are we to make, in the light of all that, of the statement that in 63 B.C., the annual expenditure of the corn dole amounted to HS 30,000,000 (Plut. *Cat. Min.* 26.1; *Caes.* 8.4)? The same qualification necessarily applies to the annual tribute of Gaul from Caesar's conquest onwards, set at HS 40,000,000 (Suet. *Caes.* 25.1;

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[22] Scipio Africanus was accused of embezzling HS 4,000,000 (Liv. 38.55.12; Val. Max. 3.7.1); in the late second century B.C., a governor enriched himself by a mere HS 4,000 (Vell. 2.8.1).

Eutrop. 6.17.3; cf. Vell. 2.39.1f.). While according to Macrob. *Sat.* 2.4.24, one of Augustus' several right-hand men extracted HS 10,000,000, or twice as much if necessary, from the people of Gaul at any one time, Seneca sets the revenue of three unspecified provinces at HS 10,000,000 also (*Helv.* 10.4). As Duncan-Jones has already noted, the figure given by Cicero for the annual revenue from Egypt of 12,500 talents equals HS 300,000,000 and will thus be no more than a conventional amount that need not have precise meaning.[23] A parallel might be provided by Plutarch's deliberately imprecise statement that the gilding of the roof of the temple of Iuppiter refurbished by Domitian cost 'more than 12,000 talents' (i.e. more than HS 288,000,000) (*Pobl.* 15.3); if we interpret this as an approximation (or secondary rounding) advanced by Plutarch in order to obtain a proper Greek equivalent, this could again give us HS 300,000,000. Even the fact that the total of outstanding taxes remitted by Hadrian in A.D. 118 is given as HS 900,000,000 in an inscription (*ILS* 309) as well as on imperial coins (*RIC* II Hadrian 590–93) does not necessarily show that it is not a conventional amount. Since nobody except an extremely small number of individuals—probably all of them privileged and devoted members of the inner core of the *familia Caesaris*—could ever have hoped to know the total amount of all debts from all provinces that had apparently been accumulated over a period of many years, Hadrian was, within certain bounds, practically free to choose a suitable figure that he wanted to publicize; by all standards, three times three hundred million might well have been a popular figure. And again, the same amount of money, HS 900,000,000, was said to have been squandered by Vitellius during his brief reign (Tac. *Hist.* 2.95.3; Dio 64.3.2).

Augustus once remitted a debt of HS 4,000,000 (Macrob. *Sat.* 2.4.23). In A.D. 57, Nero gave a subsidy of HS 40,000,000 to the *aerarium* (Tac. *Ann.* 13.31.2); five years later, he claimed to have contributed HS 60,000,000 per year (*Ann.* 15.18.2f.). The imperial treasury held HS 2,700,000,000, or three times three times three hundred million, in A.D. 37 as well as in A.D. 161 (Suet. *Cal.* 37.3; Dio 74.8.3). In A.D. 193, however, it had shrunk to a mere HS 1,000,000 (Dio 74.5.4; *H.A. Pert.* 7.6). While Galba used to carry HS 1,000,000 with him wherever he went (Suet. *Galba* 8.1), Otho had the same sum at his disposal when preparing the overthrow of Galba (Suet. *Otho* 5.2). The third in this unlucky trio, Vitellius, was allegedly offered HS 100,000,000 as a compensation for his abdication (Suet. *Vit.* 15.2). And after Vitellius' downfall, Vespasian sighed that he would need forty (or perhaps rather four) billion sesterces to restore the imperial budget (Suet. *Vesp.* 16.3).

SPECIFIC SAMPLES AND QUANTIFIED IMPRESSIONS

To avoid any impression that I have selectively picked out suitable figures to make a case, this section will be devoted to the analysis of substantially *complete* samples, consisting of all relevant data in the Greek and Roman authors who discuss the late republic and the Principate that are known to me. I will begin with a rather short list of references to expenditure on dinners, both by private persons and by the emperors, from the thirties B.C. onwards down to the Severan dynasty (Table 1).[24]

[23] Duncan-Jones, *Money and Government*, pp. 53, 254.

[24] In the first column of the following tables, 1 refers to powers of ten (1* to doubled powers of ten), 3 to decupled multiples of three (3* to doubled decupled multiples of three), and 4 to decupled multiples of four (4* to doubled decupled multiples of four). 'O' denotes all other figures.

Table 1. Expenditure on dinners

Type	Amount	Date	Source	Structure
4	HS 400	early 2nd c. A.D.	Juvenal 11.19f.	400
1	HS 100,000	A.D. 219/222	H.A. Elag. 24.3	10 × 10 (thousand)
4	(HS 400,000)	mid 1st c. A.D.	Sen. Epist. 18.7	40 × 100 × 100
4	HS 400,000	A.D. 69	Suet. Vitell. 13.1	40 × 100 × 100
1	HS 1,000,000	mid 1st c. A.D.	Sen. Epist. 18.7	100 × 100 × 100
1	HS 1,000,000	A.D. 69	Dio 64.4.3	100 × 100 × 100
3	HS 3,000,000	A.D. 219/222	H.A. Elag. 24.3	300 × 100 × 100
4	HS 4,000,000	A.D. 69	Dio 64.4.3	400 × 100 × 100
3*	HS 6,000,000	A.D. 161/168	H.A. Verus 5.5	3 × 2 (million)
1	HS 10,000,000	30s B.C.	Macrob. Sat. 3.17.15	10 (million)
1	HS 100,000,000	early 1st c. A.D.	Sen. Helv. 10.9	10 × 10 (million)
1	HS 100,000,000	A.D. 37/41	Sen. Helv. 10.4	10 × 10 (million)
3	HS 900,000,000	A.D. 69	Tac. Hist. 2.95.3; Dio 64.3.2	30 × 30 (million)

In this sample, all figures without exception conform to the basic pattern as set out above. A substantially larger number of references is provided by a list of all private fortunes reported as actually existing from the middle of the first century B.C. down to the early third century A.D. (Table 2).[25] Only private fortunes that were officially cut down to a certain size, e.g. during exile, will be omitted.

Table 2. Private fortunes

Type	Amount	Date	Source	Structure
3*	HS 6,000	late 1st c. A.D.	Mart. 4.51.1	3 × 2 (thousand)
1	HS 100,000	mid 1st c. A.D.	Petron. 43.1f.	10 × 10 (thousand)
1	HS 100,000	mid 1st c. A.D.	Petron. 44.14	10 × 10 (thousand)
1	HS 100,000	late 1st c. A.D.	Mart. 2.63.1	10 × 10 (thousand)
3	HS 300,000	late 1st c. A.D.	Mart. 4.67.3	30 × 10 (thousand)
4	HS 400,000	late 1st c. A.D.	Mart. 1.103.2	40 × 10 (thousand)
4	HS 400,000	late 1st c. A.D.	Mart. 5.38.1f.	40 × 10 (thousand)
4*	HS 800,000	45 B.C.	Cic. Att. 13.28.4	40 × 100 × 100 × 2
4*	HS 800,000	mid 1st c. A.D.	Petron. 38.7	40 × 100 × 100 × 2
1	HS 1,000,000	mid 1st c. A.D.	Petron. 38.12	100 × 100 × 100
1	HS 1,000,000	late 1st c. A.D.	Mart. 1.103.1, 12	100 × 100 × 100
1*	HS 2,000,000	late 1st c. A.D.	Mart. 1.99.1	100 × 100 × 100 × 2
1*	HS 2,000,000	late 1st c. A.D.	Mart. 4.51.3	100 × 100 × 100 × 2
1*	HS 2,000,000	late 1st c. A.D.	Mart. 9.82.5	100 × 100 × 100 × 2
4	HS 4,000,000	mid 1st c. B.C.	Sen. Vit. beat. 21.3	400 × 100 × 100
4	HS 4,000,000	mid 2nd c. A.D.	Apul. Apol. 71.6	4 × 100 × 100 × 100
1	HS 10,000,000	70s B.C.	Ascon. Tog. Cand. 90.81	10 (million)
1	HS 10,000,000	mid 1st c. B.C.	Nep. Att. 14.2	10 (million)
1	HS 10,000,000	19 B.C.	Donatus Vit. Verg. 13; Probus Vit. Verg. 16–18	10 (million)
1	HS 10,000,000	early 1st c. A.D.	Sen. Helv. 10.9; Dio 57.19.5	10 (million)[26]
1	HS 10,000,000	early 1st c. A.D.	Mart. 3.22.1f.	10 (million)
1	HS 10,000,000	late 1st c. A.D.	Mart. 1.99.4–7	10 (million)
1	HS 10,000,000	late 1st c. A.D.	Mart. 5.70.1–5	10 (million)

[25] Two exceptions are provided by Pliny the Younger who reports on anticipated fortunes; these references have been included because they are similar to those presented by the satirists.

[26] The size of the previous total fortune of Apicius can be inferred to be HS 110,000,000 from Seneca, i.e. 10 × 10 + 10 million.

Table 2. Private fortunes (*cont.*)

Type	Amount	Date	Source	Structure
1*	HS 20,000,000	late 2nd c. A.D.	Galen 13.636	10 × 2 (million)
3	HS 30,000,000	mid 1st c. A.D.	Petron. 71.12	30 (million)
3	HS 30,000,000	mid 1st c. A.D.	Petron. 88.8	30 (million)
3	HS 30,000,000	mid 1st c. A.D.	Petron. 117.8	30 (million)
3	HS 30,000,000	50s A.D.	Plin. *N.H.* 29.8	30 (million)
3*	HS 60,000,000	8 B.C.	Plin. *N.H.* 33.135	30 × 2 (million)
3*	HS 60,000,000	late 1st c. A.D.	Plin. *Epist.* 2.20.13f.	30 × 2 (million)[27]
O	HS 70,000,000	early 1st c. A.D.	Mart. 3.22.1f.	Other
1	As 100,000,000 (= HS?)	late 2nd c. B.C.	Cic. *Rep.* 3.17	10 × 10 (million)
1	HS 100,000,000	c. A.D. 1	Plin. *N.H.* 18.37	10 × 10 (million)
1	HS 100,000,000	early 1st c. A.D.	Sen. *N.Q.* 1.16.1	10 × 10 (million)
1	HS 100,000,000	late 1st c. A.D.	Suet. *Vesp.* 13	10 × 10 (million)
1	HS 100,000,000	late 1st c. A.D.	Mart. 12.10.1	10 × 10 (million)
3/4	HS 120,000,000	late 1st c. A.D.	Plin. *Epist.* 2.20.13f.	30 × 2 × 2 or 30 × 4 (million)
1*	HS 200,000,000	early 1st c. A.D.	Suet. *De Or.* 14	10 × 10 × 2 (million)
1*	HS 200,000,000	55 B.C.	Plin. *N.H.* 33.134	10 × 10 × 2 (million)
1*	HS 200,000,000	70s A.D.	Tac. *Dial.* 8.1f.	10 × 10 × 2 (million)
3	HS 300,000,000	50s A.D.	Tac. *Ann.* 12.53.2	30 × 10 (million)
3	HS 300,000,000	50s A.D.	Tac. *Ann.* 13.42.4; Dio 61.10.3	30 × 10 (million)
3	HS 300,000,000	late 1st c. A.D.	Tac. *Dial.* 8.1f.	30 × 10 (million)
4	HS 400,000,000	early 1st c. A.D.	Sen. *Benef.* 2.27.1	40 × 10 (million)
4	HS 400,000,000	A.D. 54	Dio 61.34.4	40 × 10 (million)
4	HS 400,000,000	50s A.D.	Dio 62.14.3	40 × 10 (million)
3	Tal 30	mid 2nd c. A.D.	Lucian. *Pereg.* 14	30 (Tal)
3	Tal 300	early 1st c. B.C.	Plut. *Crass.* 2.2	30 × 10 (Tal)
4	Tal 4,000	mid 1st c. B.C.	Plut. *Pomp.* 2.4	40 × 100 (Tal)
3 (?)	Tal 5,000 [= Dr 3,000,000]	mid 2nd c. A.D.	Lucian. *Pereg.* 14	[3 (million)]
O	Tal 7,100	55 B.C.	Plut. *Crass.* 2.2	Other
3 (?)	> Tal 12,000 [= > HS 288,000,000]	early 2nd c. A.D.	Plut. *Pobl.* 15.3	[30 × 10 (million)?]

In order to illustrate the relative proportion of conventional and non-conventional figures in this sample, I have compared the distribution of these data to the pattern of random distribution (Table 3). The basic conventional figures (powers of ten, decupled multiples of thirty and forty) have been separated from duplications of these figures (i.e. the above mentioned values multiplied by two). All other figures were classified as 'Other' (= Type 'O' in Table 2).

It is clear that in both cases (dinners and fortunes), the established pattern of stylization dominates the references irrespective of whether they refer to private or to public matters, and regardless of whether they come from the works of satirists or historians.[28]

[27] Both this and the next reference pertain to *anticipated* fortunes.

[28] Sceptics should note that since in the sample of private fortunes, there are only two non-conventional figures, one of which comes from an historian and one from a poet, the exclusion of fictitious values from this graph would not in any way have changed the distribution.

Table 3. The proportion of conventional figures in references to the size of private fortunes ($n = 51$)

	Distribution (in percent)		Probability of occurrence by chance
	Sample	Random*	
Powers of 10	32	2.5–19.5	< 0.00006
Decupled multiples of 30	22	2.5–19.5	< 0.02
Decupled multiples of 40	16	2.5–19.5	< 0.3
Duplicated powers of 10	14	2.5–19.5	< 0.5
Duplicated decupled multiples of 30	8	2.5–19.5	< 0.5
Duplicated decupled multiples of 40	4	2.5–19.5	< 0.2
Subtotal	96	53.9–79.5	< 0.00006
Other	4	20–46	< 0.00006

* Range within which percentage would fall 19 times out of every 20 if frequencies per digit were determined at random (e.g. by taking random samples from a larger pool of random numbers).

Table 4. Public treasury: surpluses, receipts, deficits and tax-remissions

Type	Amount	Date	Source	Structure
1	HS 1,000,000	A.D. 193	Dio 74.5.4 (cf. 74.8.3); H.A. Pert., 7.6	1,000 × 1,000
4	HS 40,000,000	A.D. 57	Tac. Ann. 13.31.2	40 (million)
3*	HS 60,000,000	A.D. 54–62	Tac. Ann. 15.18.2f.	30 × 2 (million)
3*	HS 60,000,000	A.D. 70	Tac. Hist. 4.47	30 × 2 (million)
O	HS 70,000,000	A.D. 196/7	Dio 76.5.2	Other
3*	HS 600,000,000	A.D. 39	Dio 59.22.4	300 × 2 (million)
3	HS 900,000,000	A.D. 118	Dio 69.8; H.A. Hadr. 7.6	300 × 3 (million)
3	HS 2,700,000,000	A.D. 37	Suet. Cal. 37.3	300 × 3 × 3 (million)
3	HS 2,700,000,000	A.D. 161	Dio 74.8.3	300 × 3 × 3 (million)
4	HS 4[0],000,000,000	A.D. 70	Suet. Vesp. 16.3	40 × 10 × 10 [× 10] (million)

As a further step, I have reconsidered in the same way Duncan-Jones's sample of figures from the public sphere (Tables 4–6).

As I pointed out at the beginning, in these cases any deviations from the random distribution do not attain what is normally considered statistical significance not so much because of the small size of the sample but because of a possible bias in the distribution of 'real' values. In order to account for this problem, as well as to counter the obvious objection that most (rounded) figures are necessarily multiples of ten, thirty or forty, the following graphs (Figs 1–2) show the frequency of all documented (rounded) figures (for reasons of space only between HS 1,000,000 and HS 900,000,000) set against the expected (average) distribution of figures (considering only fully rounded figures from 10 and 100 onwards: thus, the total percentage of digits given in the brackets from 1 million to 9 million, from 10 million to 90 million, and from 100 million to 900 million, is 100 for each bracket or 'class').

There is considerable overlap in preferences: thus, the most common figures in either category are one million, four million, ten million, sixty million, 100 million and 200 million. The sources for private fortunes champion also two million, thirty

Table 5. Public treasury: expenditures

| Type	Amount	Date	Source	Structure
4	HS 4,000,000	A.D. 65	Tac. *Ann.* 16.13.3	400 × 100 × 100
1	HS 10,000,000	A.D. 17	Tac. *Ann.* 2.47.2	10 (million)
1	HS 10,000,000	A.D. 53	Tac. *Ann.* 12.58.2	10 (million)
3	HS 30,000,000	A.D. 217	Dio 78.6.3	30 (million)
O	HS 50,000,000	A.D. 69	Suet. *Otho* 7.1	Other
3*	HS 60,000,000	A.D. 97/98	Dio 68.2	30 × 2 (million)
1	HS 100,000,000	A.D. 33	Tac. *Ann.* 6.17.3; Suet. *Tib.* 48.1; Dio 58.21.5	10 × 10 (million)
1	HS 100,000,000	A.D. 36	Tac. *Ann.* 6.45.1; Dio 58.26.5	10 × 10 (million)
1	HS 100,000,000	A.D. 37–41	Suet. *Cal.* 16.3	10 × 10 (million)
1	HS 100,000,000	A.D. 66	Suet. *Nero* 30.2	10 × 10 (million)
1*	HS 200,000,000	A.D. 202	Dio 77.1.1	10 × 10 × 2 (million)
1*	HS 200,000,000	A.D. 217	Dio 78.27.1	10 × 10 × 2 (million)
O	HS 280,000,000	A.D. 211/217	Dio 78.36.3	Other
3 (?)	> Tal 12,000 [= > HS 288,000,000]	A.D. 82	Plut. *Publ.* 15.3	[30 × 10 (million)?]
3	HS 300,000,000	A.D. 136	*H.A. Hadr.* 23.14	30 × 10 (million)
4	or 400,000,000		*H.A. Ael.* 3.3; 6.3	40 × 10 (million)
O (or:	HS 350,000,000	A.D. 38–52	Plin. *N.H.* 36.122	Other
1*	HS 200,000,000	A.D. 66	Dio 63.6.5	10 × 10 × 2 (million))
3	HS 900,000,000	A.D. 69	Dio 64.3.2; Tac. *Hist.* 2.95.3	30 × 30 (million)
1*	HS 2,200,000,000	A.D. 54–68	Tac. *Hist.* 1.20.1	10 × 10 × 10 × 2 (million) + 10 × 10 × 2 (million)

Table 6. The proportion of conventional figures in references to public finances (*n* = 30)

|	Distribution (in percent)		Probability of occurrence by chance
	Sample	Random*	
Decupled multiples of 40	23	0–22	< 0.0012
Powers of 10	23	0–22	< 0.01
Decupled multiples of 30	13	0–22	< 0.2
Duplicated decupled multiples of 30	13	0–22	< 0.4
Duplicated powers of 10	13	0–22	< 0.8
Duplicated decupled multiples of 40	0	0–22	< 0.06
Subtotal	87	49.8–83.5	< 0.02
Other	13	16.7–50	< 0.02

* See above, Table 3.

million, 300 and 400 million. The pattern is further clarified when we collapse the different samples (including dinner costs) into one histogram (Fig. 3).

A particularly unpalatable consequence of these stylizations is clearly brought out by Figure 3: the larger the figure, the larger the margin of inaccuracy. Thus, wide gaps separate four million from ten million, as well as thirty million from sixty million. Worse still, the actual figures expressed as 100 million could easily range from
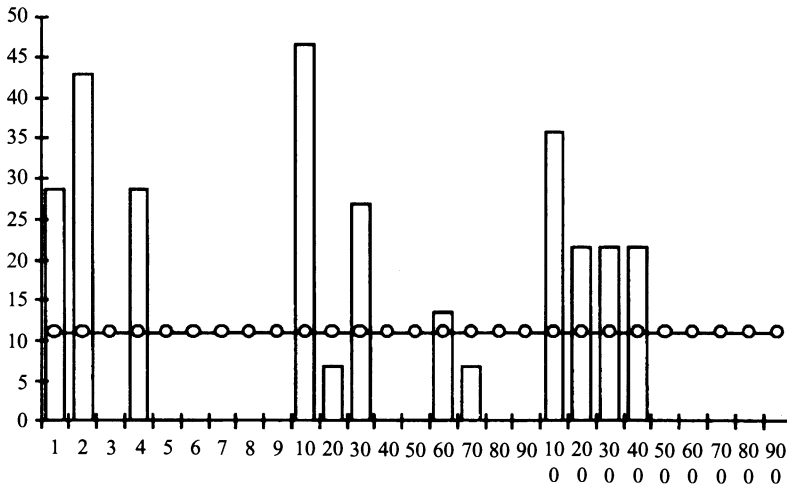
Fig. 1. Private fortunes: proportion of conventional figures (figures in millions; proportion expressed in percent for classes 0–9, 10–90, 100–900) ($n = 37$).
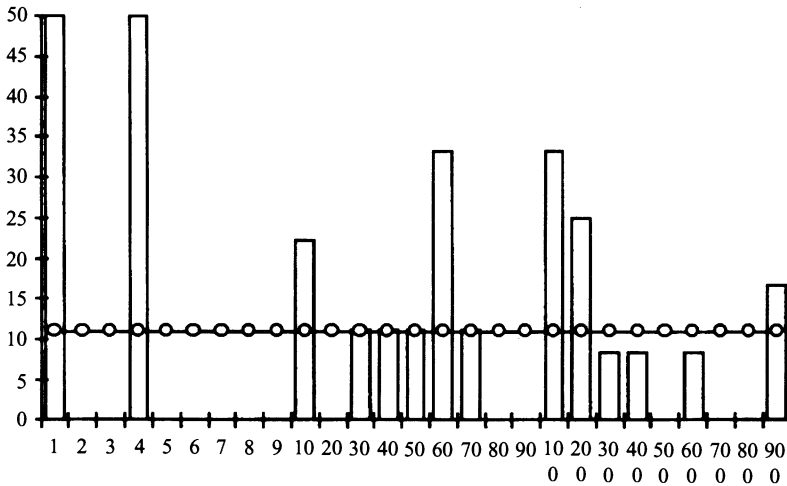
Fig. 2. Public finances: proportion of conventional figures (figures in millions; proportion expressed in percent for classes 0–9, 10–90, 100–900) ($n = 23$).

fifty million to 100 million or more, while the void between 400 million and 900 million reduces any estimates in this area, let alone beyond this range, to arbitrary guesses. A final condensed summary of the data utilized in Fig. 3 for the digits from 1 to 9 that disregards sizes (e.g. by lumping references to three, thirty and 300 million together into the bracket '3') shows how far the frequency of each first digit differs from the expected 11 percent of the net sample in each case (Fig. 4). Not fewer than seventy-four percent of the sixty-five amounts lie outside this expected range.

When we look at Tables 3 and 6, it catches the eye that the data for public affairs are only slightly more precise than those for private matters. Considering private fortunes, only four percent of all figures fall outside the pattern of conventional
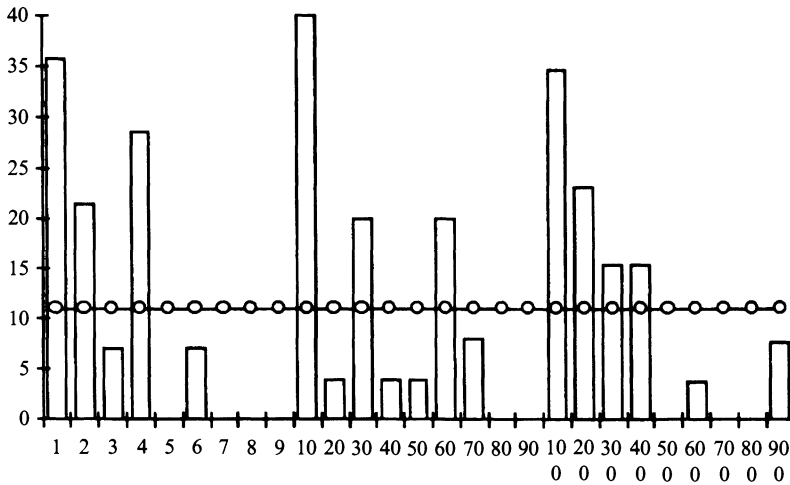
Fig. 3. All samples combined: proportion of conventional figures (figures in millions; proportion expressed in percent for classes 0–9, 10–90, 100–900) ($n = 65$).
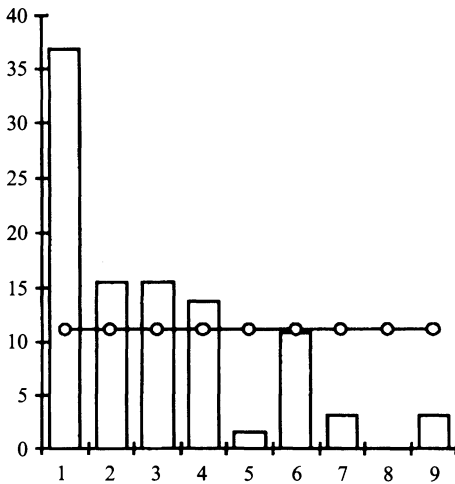

Fig. 4. All samples and brackets combined: proportion of conventional figures (according to first digit only) ($n = 65$).

amounts, as compared to thirteen percent of the data on public finances. However, the few supposedly non-conventional figures for the treasury do not look in the least precise but suspiciously smooth, amounting to 500,000, five million, fifty million, seventy million (twice), four times seventy million, and five times seventy million. Plutarch's reference to Pompey's fortune as 7,100 talents (or *c.* HS 170,000,000) is the only one that really stands out. In general, the extent of stylization and discernible inexactitude seems to vary considerably, most notably not with individual authors

but with different subject matter.[29] This issue alone clearly calls for a more in-depth treatment.

Another issue deserving further attention is the predictable extent of stylization of actual amounts of money. While some kinds of payments may have been deliberately designed to comply with prevailing number preferences, monetary data on other matters will be less likely to match any particular pattern of stylization. In real life, sums of money intended to relate the size of private fortunes, the surplus of the treasury, or the revenue derived from real estate certainly did not come only in powers of 10 and decupled multiples of 30 and 40. An intermediate position may be assigned to values concerning public expenditure, taxation, expenditure on dinners, or prices of all kinds (especially for luxury goods), which in some cases may have been established with an eye on familiar conventionalities. This tendency could have been more pronounced when people decided the size of legacies (as opposed to inheritances), and above all the value of handouts.[30] It remains to be seen whether these preliminary suggestions will be confirmed by the comparative evaluation of sets of data that pertain to different types of subject matter.

Exact numbers for large numbers are extremely rare in the written tradition. Whereas this fact might theoretically be due to rounding off of totals that the ancient authors nevertheless knew exactly, it does not appear to be such, because the figures given are normally chosen from a restricted menu which does not include the full ten digits, or at least not in an unbiased manner. While Roman documentary evidence offers ranges of numbers which, as one might expect, are not restricted in this way (e.g. the Italian *alimenta* lists), the number constriction in the literary sources emerges as a deeply engrained form of stylization which invites comparison with age-rounding and allied number preferences.[31] But whereas age-rounding is a socially graded phenomenon arguably linked to educational standards,[32] number-stylization in authors of the late Republic and the Principate belongs *ipso facto* to the most educated class, and appears to be widespread and largely undifferentiated. In any given case it is normally impossible to discriminate between numbers which are merely stylized and those which are stated accurately and in good faith but happen to fall into the 'stylized zone'. Yet if correctly known but rounded figures were in the majority, they would fill up gaps in the non-preferred digits; since the above

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[29] In general, apart from some references to prices of HS 100,000 in Martial and the *Historia Augusta*, prices for slaves are surprisingly 'precise', a fact already established for Petronius by Duncan-Jones, *Economy*, 247. Other subjects that prompted greater precision include landed properties as referred to by Cicero and Pliny the Younger, and even the price of mullets (but cf. above). This will be brought out at length in the survey referred to above, n. 6.

[30] Thus, instances where seemingly conventional figures have to be regarded as trustworthy cannot be seen as invalidating my sceptical stance since they might on the contrary testify to or even endorse the widespread popularity of stylization: if the amount of money spent was of little concern, Romans may well have adjusted the volume of largesse to match popular conventional figures, as it seems to have been the case with Caesar's legacy to the Roman people of HS 300 per head (*R.G.* 15; Nicol. Dam. 48; Suet. *Caes.* 83.2; Plut. *Brut.* 20.2, *Ant.* 16.1, *Mor.* 206F; App. *B.C.* 2.143), or with Augustus' legacy of HS 40,000,000 to the *populus* (Suet. *Aug.* 101.2; Dio 56.32.3). The same might hold true for individual gifts and rewards by the emperors to single persons: e.g. Dio 56.46.2; Tac. *Ann.* 1.75.3; 2.86.2; 4.16.4; Plut. *Galba* 28; and cf. the legacy of HS 1,000,000 per capita in Fronto, *Amic.* 1.14. Cf. also the data for *summae honoriae* in Roman North Africa listed in Duncan-Jones, *Economy*, pp. 108–10, which betray an obvious preference for certain round figures such as 2,000, 6,000, 10,000 or 12,000 sesterces.

[31] Cf. R. Duncan-Jones, *Structure and Scale in the Roman Economy* (Cambridge, 1990), p. 81, and above, n. 3.

[32] Thus ibid. 83–5, 91f.; but cf. W. Scheidel, 'Zur Angabe des Lebensalters in den römischen Grabinschriften Österreichs', *RÖ* 19/20 (1991/92), 151–3.

histograms reveal striking gaps, correctly known figures can hardly be in the majority. Thus, for the time being, we have to conclude that at least for the subjects under review, practically all numerical references may be no more than indicatory of a certain order of magnitude. In the introduction to his study of prices in the Latin novel, Duncan-Jones objects to the practice that regardless of their different background and purpose, 'prices found in the novelists are nevertheless sometimes cited on an equal footing with prices from contemporary historical, epigraphical and papyrological sources'.[33] But as far as historical literary sources are concerned, this eclectic approach to the ancient evidence now turns out to be not that unjustifiable after all, if only for an hitherto unsuspected reason: that prices derived from historical or antiquarian accounts often need not be superior to those gleaned from works of fiction.[34]

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APPENDIX: A CALL FOR A COMPARATIVE PERSPECTIVE

It hardly needs to be emphasized that the Romans were not the only ones with a penchant for conventional figures. While a vast number of works of literature from various times and places could (and doubtless should) be ransacked for comparable data, at present I will confine myself to adducing just one example to whet the appetite of future researchers. The 'History of Tabaristán', a medieval account of the Caspian provinces of Iran, contains a large number of figures relating to amounts of money.[35] In Table 7, these references are tabulated in the same way as in Tables 3 and 6.

One third of the total number of monetary valuations as given in column 1 ($n = 73$) come from two lists of amounts of money, one recording the income derived from various provinces and the other referring to the value of property restored to members of the aristocracy.[36] Although the figures in these lists need not be

[33] Duncan-Jones, *Economy*, p. 238.

[34] As a pointer to future research, I may add that once the preoccupation of the Romans with clearly defined conventional figures has firmly been established, the 'numbers game' need not remain confined to monetary valuations alone. Note, for instance, that the comparison by Duncan-Jones, op. cit., p. 240, of Petronius' mentioning of a fortieth *decuria* of slaves in Trimalchio's household (47.12) with the case of the 400 slaves executed following the murder of Pedanius Secundus (Tac. *Ann.* 14.42–5) could now also be seen in a different light: if 400 was a familiar symbol, both references could, independently of each other, be understood as possibly exceedingly rough approximations. This might also help to solve the vexed question of whether 400 slaves could actually have dwelt under the same roof, as required by the SC Silanianum. In actual fact, Tacitus does not explicitly state that 400 slaves were executed (as implied by all modern accounts that I know of)—he vaguely refers to 'tot innoxii'—, but merely has the senator C. Cassius casually bring up this number in a highly rhetorical exclamation: 'By all means vote impunity! But whom shall his rank defend, when rank has not availed the prefect of Rome? Whom shall the number of his slaves protect, when four hundred could not shield Pedanius Secundus?' (14.43, Loeb transl. by J. Jackson). That this could be a mere indication that a 'large number' of slaves were compromised is corroborated by Apuleius, *Apol.* 93, according to whom his wife Pudentilla gave 400 slaves to her sons of her first marriage. The Latin *Vita* of Melania the Younger (fifth century A.D.) ascribes to her an estate with sixty hamlets, each with about 400 agricultural slaves (see M. I. Finley, *Ancient Slavery and Modern Ideology* [London, 1980], p. 123). Cf. also the 8,000 slaves allegedly freed by Melania after her conversion to Christianity (Pallad. *Hist. Laus.* 61).

[35] E. G. Browne, *An Abridged Translation of the History of Tabaristán Compiled about A.H. 613 (A.D. 1216) by Muhammad b. al-Hasan b. Isfandiyár* (Leyden & London, 1905).

[36] Ibid., pp. 29 and 195.

Table 7. The proportion of conventional figures in the 'History of Tabaristán'
compared to Roman literature

	Distribution (in percent)			
	'Tabaristán'		Rome	
	All	Without lists	Table 3	Table 6
Powers of 10	32	37	32	23
Duplicated powers of 10	19	27	14	13
Decupled multiples of 30	15	16	22	13
Duplicated decupled multiples of 30	3	2	8	13
Decupled multiples of 40	4	6	16	23
Duplicated decupled multiples of 40	0	0	4	0
Subtotal	73	88	96	87
Other	27	12	4	13

particularly precise (thus, the amount of 1,200,000 dirhams occurs several times),
many of them do not fit in the pattern of powers of ten and decupled multiples of 30
and 40. The question of whether this is due to a more reliable underlying tradition
based on some kind of official account or merely to the desire to avoid a monotonous
chain of a very few recurring conventional figures is well beyond the scope of the
present paper. It catches the eye, however, that the remaining monetary valuations
that are not embedded in lists but primarily given *en passant* throughout the narrative
(column 2, $n = 49$) show a considerably higher rate of stylization. Since most figures
found in Roman literature belong to the same type of rather isolated references, it is
above all this latter group of figures from the 'History of Tabaristán' that invites
comparison with the Roman data. It can be observed that duplicated powers of ten
(i.e. rounded figures beginning with 2) are far more frequent in the Arabic work than
in Roman literature, while the opposite holds true for decupled multiples of 40. The
overall picture, however, seems fairly similar: the 'History of Tabaristán' as well as
the Roman sources consistently neglect rounded figures beginning with 5, 7 and 9 in
favour of certain other figures, especially powers of 10 and decupled multiples of 30.
But whatever the details, what this comparison shows above all is that research on the
extent and the pattern(s) of numerical stylization might well go beyond the confines
of any specific 'field' such as the Classics. The significance of this phenomenon and
its potential impact on all kinds of historical reconstructions should be particularly
obvious to everyone who relies on pertinent data contained in literary works of an
explicitly historical or antiquarian nature. Could it really be that so many decades of
untiring historical research and literary criticism have failed to produce a single
comparative study of this subject?